

5 *CLAIMS*

What is claimed is:

10 1. In a system supporting shared access to a plurality of concurrently operating applications by multiple users associated with one or more entities, a method for monitoring individual application utilization, comprising the steps of:

during a time interval,

maintaining a first record of different users associated with an entity;

15 maintaining a second record of different applications invoked by at least one of said different users;

20 maintaining a third record of use of an executable program employed by said different applications invoked by said at least one different user, said record of use supporting allocation of proportionate usage of said program between said different applications; and

25 employing said first, second and third records for intermittently compiling data identifying operation usage characteristics of individual applications of said different applications by particular users associated with said entity in response to a predetermined event.

30 2. A method according to claim 1, including the step of allocating usage of said program between said different applications by determining an estimate of relative duration of use of said program by individual applications of said different applications.

35 3. A method according to claim 2, including the step of determining and recording weighting factors associated with individual applications of said different applications, said weighting factors representing an estimate of relative duration of use of said program by individual applications of said different applications.

5 4. A method according to claim 1, wherein said step of compiling data comprises

 compiling data identifying at least one of, (a) processor time used by
an individual application, (b) a number of file accesses made by an individual
application, and (c) a number of storage access requests made by an individual
10 application .

 5. A method according to claim 4, wherein said step of compiling data comprises

 compiling data supporting identifying relative operation usage
15 characteristics by an individual application as a proportion of said different applications.

 6. A method according to claim 1, wherein
 said predetermined event comprises at least one of, (a) a data access
20 request, (b) a storage access request, (c) termination of use of an individual application, (d) termination of a user operation session and (e) a periodically generated command.

 7. A method according to claim 1, including the step of
25 maintaining a fourth record associating a processing device with at least one of, (a) a user, (b) an entity and (c) an individual application.

 8. A method according to claim 1, wherein
 data elements of said second and third records are dynamically created
30 during a session of operation.

 9. A method according to claim 1, wherein
 said executable program employed by said different applications
comprises a program providing a function shared by said different applications.

 10. A method according to claim 1, wherein
 said entity comprises at least one of, (a) a customer, (b) a company, (c)
35 an organization and (d) an identifiable group of users.

5 11. In a system supporting shared access to a plurality of concurrently operating applications by multiple users associated with one or more entities, a method for monitoring individual application utilization, comprising the steps of:

 during a session of user operation,

 maintaining a first record of different users associated with an entity;

10 maintaining a second record of different applications invoked by at least one of said different users;

 maintaining a third record associating a processing device with said at least one of said different users; and

15 employing said first, second and third records for intermittently compiling data identifying at least one of, (a) processor time used by an individual application, (b) a number of file accesses made by an individual application, and (c) a number of storage access requests made by an individual application of said different applications by particular users associated with said entity in response to a predetermined event.

20 12. A method according to claim 11, including the step of

 maintaining a fourth record for use in allocating proportionate usage to an individual application of an executable program shared by a plurality of said different applications.

25 13. A method according to claim 12, including the step of

 allocating proportionate usage of said program between said plurality of said different applications by determining an estimate of relative duration of use of said program by individual applications of said different applications.

30 14. A method according to claim 11, wherein said step of maintaining a third record includes

 maintaining a third record associating said processing device with said entity.

35 15. A method according to claim 11, wherein

 said first, second and third records are maintained in at least one of, (a) a single file and (b) a plurality of files.

5 16. A method according to claim 11, wherein said step of
intermittently compiling data comprises

intermittently compiling data identifying at least one of, (a) size of
storage employed by an individual application, (b) a number of input/output requests
made by an individual application, (c) a number of file deletion requests made by an
10 individual application and (d) storage size employed for user data.

17. In a system supporting shared access to a plurality of concurrently
operating applications by multiple users associated with one or more entities, a
method for monitoring application utilization, comprising the steps of:

15 maintaining a first record of different users associated with an entity;
 maintaining a second record of different applications invoked by at
least one of said different users;

 maintaining a third record associating a processing device with said at
least one of said different users;

20 employing said first, second and third records for intermittently
compiling data identifying at least one of, (a) processor time used by an individual
application, (b) a number of file accesses made by an individual application, and (c) a
number of storage access requests made by an individual application of said different
applications by particular users associated with said entity in response to a
25 predetermined event; and

 generating a record based on said compiled data.

18. A method according to claim 17, wherein said step of generating a
record comprises

30 generating a record for use in at least one of, (a) billing an entity for
usage of processing resources, (b) tracking system performance and (c) adaptively
adjusting system characteristics to improve system performance.

5 19. A user interface system for monitoring individual application utilization of a plurality of concurrently operating applications shared by multiple users associated with one or more entities, comprising the steps of:

 initiating display of a first image including a user selectable item for selecting display of image data representing processor utilization collated by
10 individual application for a plurality of concurrently operating applications; and
 in response to user selection of said item,

 initiating display of a second image including compiled data identifying at least one of, (a) processor time used by an individual application, (b) a number of file accesses made by an individual application, and (c) a number of
15 storage access requests made by an individual application of said plurality of concurrently operating applications.

 20. A method according to claim 19, including the step of
 deriving said compiled data by intermittently generating data
20 identifying operation usage characteristics of individual applications of said plurality of concurrently operating applications based on accumulated operation data records, said operation usage characteristics being collated for individual users associated with an entity.

 25 21. A system for monitoring individual application utilization of a plurality of concurrently operating applications shared by multiple users associated with one or more entities, comprising:

 a record processor for,
 maintaining a first record of different users associated with an
30 entity,

 maintaining a second record of different applications invoked by at least one of said different users, and

 maintaining a third record of use of an executable program employed by said different applications invoked by said at least one different user,
35 said record of use supporting allocation of proportionate usage of said program between said different applications; and

 a data compiler employing said first, second and third records for intermittently compiling data identifying operation usage characteristics of individual

5 applications of said different applications by particular users associated with said entity in response to a predetermined event.

22. A system for monitoring individual application utilization of a plurality of concurrently operating applications shared by multiple users associated with one or more entities, comprising:

a record processor for,
maintaining a first record of different users associated with an
entity,
maintaining a second record of different applications invoked
by at least one of said different users, and
maintaining a third record associating a processing device with
said at least one of said different users; and

a data compiler employing said first, second and third records for intermittently compiling data identifying at least one of, (a) processor time used by an individual application, (b) a number of file accesses made by an individual application, and (c) a number of storage access requests made by an individual application of said different applications by particular users associated with said entity in response to a predetermined event.